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Girja Narlikar

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EXAMINER

STRANGE, AARON N

ART UNIT

PAPER NUMBER

2153

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/731,348

Applicant(s)

NARLIKAR ET AL.

Examiner

Aaron Strange

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

3. With regard to claim 1, the limitation “wherein a given file type is determined to be said heavy file type if said given file type satisfies one or more predefined criteria based on a size of files of said given file type” is not supported by the specification. Claim 1 is directed to a “client-side” method, and the specification clearly states that the client merely examines a table to determine whether a file type is a “heavy” file type (Page 7, Lines 18-25 of present application). This table is received by the client as a complete table (Page 9, Lines 9-26 of present application). Therefore, it is apparent that the step of determining whether a given file type satisfies one or more predefined criteria based on a size of files of the given file type is not performed at the client, and the specification fails to provide support for the client performing such an operation. In

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the present application, the client determines whether or not a file type is a heavy file type merely by examining a table created by another entity.

4. Claims 13 and 21 recite substantially identical limitations as claim 1, and are rejected under the same rationale.

5. With regard to claim 7, the limitation "determining if said web resource request is server by a domain having a traffic volume that satisfies one or more criteria" is not supported by the specification. As discussed above with regard to claim 1, the client merely examines a table to determine whether a domain is a heavy domain. The client itself does not determine if the traffic volume of the domain satisfies one or more predefined criteria. It merely determines if the domain appears in the proxy selection table (at least Page 7, Lines 18-25 and Page 9, Lines 9-26 of present application).

6. Claims 17 and 22 recite substantially identical limitations as claim 7, and are rejected under the same rationale.

7. All claims not individually rejected are rejected by virtue of their dependency from the above claims.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 3, 13, 15, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Braddy (US 6,304,967) in view of Yoakum et al. (US 6,421,674).

10. In referring to claims 1, 13, and 21, Braddy discloses a client-side method of selecting a server storing a web resource from among a plurality of servers, said method comprising the steps of:

receiving at said client (request broker) a request for said web resource (Col 8, Lines 9-11);

determining if said web resource is a heavy file type (request is analyzed to determine the file type such as HTML, jpeg, gif or other MIME types) (Col 15, Lines 48-60), wherein a given file type is determined to be said heavy file type if said given file type satisfies one or more predefined criteria based on a size of files of said given file type (large MIME types such as gif, jpeg, and mpeg are significantly larger, on average than html files); and

redirecting by said client said web resource request to a server associated with

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said heavy file type when it is determined that said web resource is said heavy file type (appropriate server is chosen to handle the request)(Col 15, Line 61 to Col 16, Line 3 and Col 17, Lines 41-52).

Braddy fails to specifically disclose that the servers storing the web resource are proxy servers.

Yoakum discloses a similar system wherein database requests are redirected to one of a plurality of proxy servers if the requested information is not available at the first proxy server queried. This allows most requested information to be obtained from a local proxy server, without requiring it to be retrieved from the wide area network.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize proxy servers to store the web resources in the system disclosed by Braddy since they could service many of the web requests without requiring the requests to be sent over the Internet, increasing the speed at which requests are serviced.

11. In referring to claims 3 and 15, Braddy further discloses a that said redirecting step further comprises accessing a server selection table that associates said file type to a server (Col 17, Lines 41-52).

12. Claims 2, 4, 5, 14, and 16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Braddy (US 6,304,967) and Yoakum (US 6,421,674) in further view of Gampper et al. (6,442,601).

13. In referring to claims 2 and 14, although Braddy and Yoakum shows substantial features of the claimed invention including redirection methods, they do not show *file type having an average size that exceeds a threshold*. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Pistriotto as evidenced by Gampper.

In an analogous art Gampper shows a proxy cache system for saving files of a predetermined minimum size and greater into secondary storage in the cache (col. 6 lines 31-59).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Braddy and Yoakum by employing the feature shown by Gampper in order to employ a commonly known caching scheme for saving larger files thereby reducing bandwidth required in retrieving files from the network (col. 6 lines 60-col. 7 line 9).

14. In referring to claim 4, 5, and 16, Gampper shows a proxy server based on the recent history of client request patterns and analyzing the recent history of client request patterns (col. 3 lines 24-29).

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braddy (US 6,304,967) and Yoakum (US 6,421,674) in further view of Smith (6,341,311).

Although Braddy and Yoakum show substantial features of independent claim 1 they do not show *assigning or sorting heavy domains into  $P \times (1/h)$* . The claim essentially shows a formula for increasing the distribution to the number of proxy caches as the number of heavy requests goes up. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Smith.

In an analogous art Smith shows the access requests in a distributed cache. Smith shows the addition of new proxy server in to the network (fig. 11, col. 18 lines 49-53).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Braddy and Yoakum in order to lower demand on proxy servers by balancing load to new participating proxy servers (see Smith col. 18 lines 54- col. 19 lines 14).

16. Claims 7,9-11,17, 20, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa ("Using Smart Clients to Build Scalable Services") in view of Jordan (US 6,438,652).

17. In referring to claim 7, 17, and 22, Yoshikawa discloses a client-side method of selecting a server storing a web resource from among a plurality of proxy servers, said method comprising the steps of:

receiving at said client a request for said web resource (Page 5, Lines 16-18);



determining if said web resource request is served by a domain having a traffic volume that satisfies one or more predefined criteria (determine load of each server)(Page 8, Line 38 to Page 9, Line 25); and

redirecting by said client said web resource request to a server associated with said domain when it is determined that said web resource is server by a domain having a traffic volume that satisfies said one or more predefined criteria (redirect request to the least loaded server)(Page 8, Line 38 to Page 9, Line 25). However, Yoshikawa fails to specifically disclose that the servers are proxy servers.

Jordan discloses a similar system for load balancing requests across multiple proxy servers (see abstract). Jordan discloses moving requests from one proxy server to another in the event that a server is overloaded (Col 5, Line 50 to Col 6, Line 5). Use of proxy servers in the system disclosed by Yoshikawa would have been advantageous since they allow requests to be serviced without incurring load on the domain server.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use proxy servers to store the web resources, since they would have allowed the requests to be serviced without overloading the domain server.

18. In referring to claims 9 and 19, Yoshikawa further discloses accessing a proxy selection table that associates said domain to a proxy server (Page 6, Lines 7-8).

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19. In referring to claims 10, 11, and 20 Yoshikawa further discloses that redirecting said request to a given proxy server based on the recent history of client request patterns (Page 9, Lines 22-24).

20. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over ("Using Smart Clients to Build Scalable Services") in view of Jordan (US 6,438,652) in further view of Smith (US 6,341,311).

21. With regard to claim 12, although Yoshikawa and Jordan show substantial features of independent claim 7, Yoshikawa and Jordan do not show assigning or sorting heavy domains into  $P \times (1/h)$ . The claim essentially shows a formula for increasing the distribution to the number of proxy caches as the number of heavy requests goes up. Nonetheless this feature is well known in the art, and would have been an obvious modification to the system disclosed by Smith.

In an analogous art Smith shows the access requests in a distributed cache. Smith shows the addition of new proxy server in to the network (fig. 11, col. 18 lines 49-53).

Given this feature, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system shown by Yoshikawa and Jordan in order to lower demand on proxy servers by balancing load to new participating proxy servers (see Smith col. 18 lines 54- col. 19 lines 14).

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22. Claims 8 and 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshikawa ("Using Smart Clients to Build Scalable Services") in view of Jordan (US 6,438,652) in further view of Official Notice.

23. With regard to claims 8 and 18, while the system disclosed by Yoshikawa in view of Jordan shows substantial features of the claimed invention (discussed above), it fails to specifically disclose that said predefined criteria is based on a maximum normalized daily load.

The Examiner takes Official Notice that use of maximum normalized daily load to classify the load on a plurality of servers was old and well-known in the art at the time the invention was made and it would have been apparent to one of ordinary skill in the art that the maximum normalized daily load could be used to determine which servers experience consistently high traffic and load balance them accordingly.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use maximum normalized daily load to classify servers in order to balance the load across a plurality of proxy servers for a domain.

### ***Conclusion***

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Strange whose telephone number is 571-272-3959. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS 4/25/2006



**KRISNA LIM**  
**PRIMARY EXAMINER**